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Nota di contenuto	to Flow Control -- Frontiers of Flow Control -- Some Notes on Drag Reduction in the Near-Wall Region -- Large-Scale-Structure Identification and Control in Turbulent Shear Flows -- Multiscale Active Flow Control -- Control of Free Turbulent Shear Flows -- Near-Wall Turbulence Control -- Combustion Enhancement by Active Control -- Chaos, Coherence and Control.
Sommario/riassunto	The potential benefits of realizing efficient flow-control systems range from saving billions of dollars in fuel costs for land, air and sea vehicles to achieving economically/environmentally more competitive industrial processes involving fluid flows. The understanding of some basic mechanisms in free-shear and wall-bounded turbulence suggests that the taming of turbulence is possible so as to eliminate some of its deleterious effects while enhancing others. Passive as well as active, including reactive, flow-control strategies are covered. Sophisticated reactive control systems heavily relying on parallel computers are envisioned for future practical devices to improve the ability to reduce

drag, increase lift, suppress flow-induced noise, enhance mixing and achieve other desired flow-control goals. This book is intended for engineers, physicists, applied mathematicians and graduate students who have an interest in the physics and control of laminar, transitional and turbulent flows. The different contributions are written in a clear, pedagogic style and are designed to attract newcomers to the field. A knowledge of basic fluid dynamics is assumed, and the book should help the reader in navigating through the colossal literature available on flow-control fundamentals and practices.